IP Conferencing Module Installation Guide

3Com® Networked Telephony Systems
NBX® System Release 6.0

CONTENTS

3 **OBTAINING SUPPORT FOR YOUR PRODUCT**

INDEX

ABOUT THIS GUIDE

This section contains an overview of this guide, lists guide conventions, related documentation, and product compatibility.

This guide describes how to answer the questions in the installation scripts, which run when you first start a 3Com® IP Conferencing Module Server. By providing the correct answers to the script questions, you configure the system for initial operation.

This guide is intended for equipment installers who have a thorough understanding of telecommunications, VoIP technology, Linux operating systems, databases, networks, and system administrator privileges.

> *Release Notes are issued with some products. If the information in the release notes differs from the information in this guide, follow the instructions in the release notes.*

Conventions

This section describes notice, text, and figure conventions.

Notices

Table 1 lists notice icons.

Table 1 Notice Icon Descriptions

Icon	Notice Type	Description
	Information note	Information that describes important features or instructions
	Caution	Information that alerts you to potential loss of data or potential damage to an application, system, or device
	Warning	Information that alerts you to potential personal injury

Text   Table 2 lists text conventions.

Table 2   Text Convention Descriptions

Convention	Description
Screen displays	This typeface represents information as it appears on the screen.
Commands	The word "command" means that you must enter the command exactly as shown and then press Return or Enter. Commands appear in bold. Example: To remove the IP address, enter the following command: **SETDefault !0 -IP NETaddr = 0.0.0.0**
Words in *italics*	Italics are used to: ■ Emphasize a point. ■ Denote a new term at the place where it is defined in the text. ■ Identify menu names, menu commands, and software button names. Examples: From the *Help* menu, select *Contents*. Click *OK*.

Related Documentation

These 3Com documents contain additional information about the products in this release that are a part of or support the 3Com Convergence Applications Suite.

The following documents are a part of the IP Conferencing Module:

■ *IP Conferencing Module Installation Guide*

■ *IP Conferencing Module User Guide*

■ *IP Conferencing Module Administration Guide*

Comments

Send e-mail comments about this guide or about any Voice product documentation to:

VOICE_Techcomm_comments@3com.com

Include the following information with your comments:

■ Document title

■ Document part number (found on the front page)

- Page number
- Your name and organization (optional)

Example:

IP Conferencing Module Installation Guide
System Release 6.0
Part Number 900-0368-01
Page 25

Please address all questions regarding 3Com software to your authorized 3Com representative.

1 **P<small>RE</small>-I<small>NSTALLATION</small>**

This chapter provides pre-installation guidelines for the 3Com IP Conferencing Module, which is an optional component of the 3Com NBX Networked Telephony System.

> **i** *The NBX system does not support presence. References to the "presence server" and "presence database" in this document are applicable to other products in the 3Com Convergence Applications Suite.*

- [Configuration Overview](#)
- [Gathering Site Information](#)
- [Worksheet](#)

Configuration Overview

All of the software components of the 3Com IP Conferencing Module must be installed on a single hardware server. Multiple server installations are not supported.

The hardware server that hosts the 3Com IP Conferencing Module software must run the 3Com VCX™ Linux operating system. Consult the 3Com price list for details.

Components installed on the single server:

- conference server/conference attendant server
- NBX user database
- conferencing database (master)
- web console server

Figure 1 Network diagram - single server
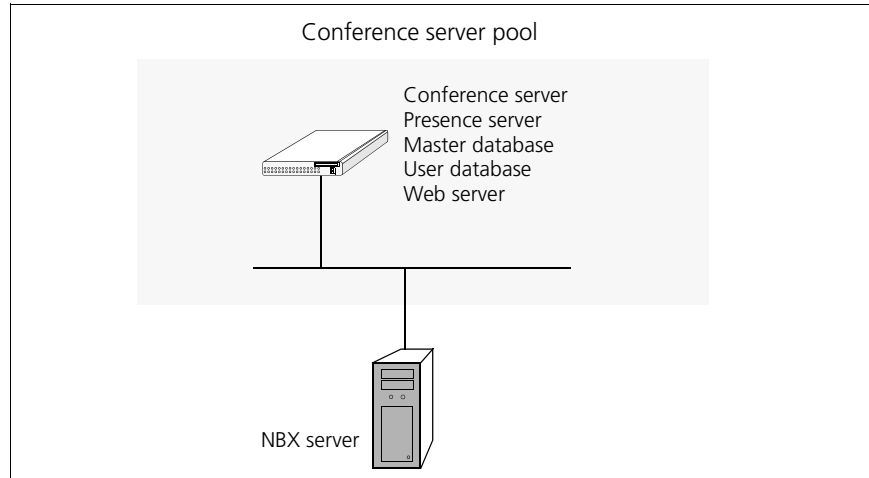
Post-installation Setup

After you run the installation script, you need to configure the following:

Setting up a Route to the Conference Servers

You must configure the NBX dial plan with a route to your conference server. If your implementation has only one server, then a route to a single endpoint is required.

Setting up a Route to the Conference Attendant Servers

As with the conference server, it is necessary to configure a route for the conference attendant server. The NBX dial plan is used for this purpose.

Test E-Mail Notification Setup

You must test the e-mail setup by logging in to the system and sending an e-mail message using Send-only Simple Mail Transfer Protocol (sSMTP). If you fail to receive the test e-mail message, you can check for errors in `/opt/logs/vcx-linux/maillog`.

Gathering Site Information

The 3Com NBX servers communicate with each other using IP addresses. These addresses must be dedicated (static) and must be compatible with your network design.

One or more 3Com IP Conferencing Module servers may be added to a system.

Using DNS   3Com recommends that you configure your DNS servers so that they know the IP addresses of all NBX servers and gateways. If you prefer to not use DNS, you can edit the /etc/hosts files on the IP Conferencing Module and all of the NBX servers.

| **i** | *3Com does not support NIS or WINS as domain name resolution methods for* NBX *products.* |

Single Server   You require the following:

- You must dedicate one IP address to the 3Com IP Conferencing Module.

- You must assign a host name to the 3Com IP Conferencing Module.

- You must know the IP address of the network gateway.

- You must know the IP addresses of the primary and secondary DNS servers.

- You must know the IP addresses of the primary and secondary NTP servers.

Worksheet   To make it easier to configure your system, you may want to have the necessary information in front of you before you begin to install any server.

Table 3   Network Configuration Parameters

Configuration Parameter	**Value**
3Com IP Conferencing Module IP address (eth0)	
3Com IP Conferencing Module host name	
Subnetwork mask	
Gateway IP address	
Primary DNS server IP address	
Secondary DNS server IP address	
DNS search path	
Primary NTP server IP address	
Secondary NTP server IP address	

Table 3   Network Configuration Parameters (continued)

Continent
Country
Time Zone

Table 4   System Configuration Parameters

Configuration Parameter	Value
Services:	
1. Presence and Conference - all in one	
2. Conferencing server	
3. Conferencing and database server	
4. Data server for presence and conferencing	
5. Presence server (with database)	

Table 5   E-Mail Notification Parameters

Configuration Parameter	Value
Mailhub (computer that handles mail)	
Hostname of your computer	
Mail name of your system	
System user e-mail address	

Table 6   Database Configuration Parameters

Configuration Parameter	Value
Database:	
1. Local Master: this server will have the master db	
2. Local Slave: this server will have the slave db	
3. Remote database: db is on another server	

Table 7   Initial Configuration Parameters

Configuration Parameter	Value
Fully qualified hostname of the installation	
Administrator's e-mail address	
Activation key(s)	
Minimum value for numeric conference names	
Maximum value for numeric conference names	
Prefix for Ad Hoc conference names	
Prefix for Group Call names	
IP address of the primary dialout proxy	
IP address of the secondary dialout proxy	
Digit Map for DTMF dialout	
NBX server Site ID (enter on master only)	
NBX Server IP address (primary server: eth0)	
Username for NBX database synchronization	
Password for NBX database synchronization	

2

INSTALLATION SCRIPTS

This chapter describes the initial configuration of each 3Com IP Conferencing Module server in a NBX system. All software components run on each server.

The installation scripts are run on command. Each time a script prompts you for a response, you can accept the default (preconfigured) value by pressing the Return or Enter key, or you can manually enter a different value.

If necessary, you can re-run the scripts and enter new values.

i *Verify that all the procedures outlined in Chapter 1, "Pre-Installation" have been completed before continuing with this chapter.*

i *The NBX system does not support presence. References to the "presence server" and "presence database" in this document are applicable to other products in the 3Com Convergence Applications Suite.*

This chapter contains information on the following:

- Overview of Components
- Initial Installation - Services Installed
- Initial Installation - Configuration Guidelines
- Single Server Initial Installation
- Post Installation Configuration
- Upgrade Installation
- Managing the Activation Keys

Overview of Components

This section provides a general description of the various components of the IP Conferencing Module.

- Web Provisioning Server — Allows for the creation of conferences and maintenance of the server.

- Conference Server — Allows users to join conferences that support any or all of audio, video, and desktop sharing communication modes.

- Conference Attendant — Allows users to join conferences by dialing a single access number independent of conference ID. The attendant prompts the user for the conference ID and, if required, the conference passcode.

- Presence Server (optional) — Collects and distributes the online status information of users.

- Conference Server Database — Database of IP Conferencing Module activity. On systems with two or more servers, a single database pair (master and slave) is supported.

- NBX user database — Database of NBX system users.

$\boxed{i>}$ *The NBX system does not support presence.*

Initial Installation - Services Installed

When you perform an initial software installation (a "fresh" install), you must run the setup script for each hardware server in your conference server pool. The script provisions the following services on the hardware server:

Network Configuration — For the initial installation, you are prompted to enter general networking settings.

System Configuration — The script prompts you to select the configuration that matches the services you have purchased. Select one of the following:

- Presence and Conference (All-in-one): Installs all components, including the conference server, conference attendant server, web server, NBX user database, and conference database.

- Conferencing server: Installs the conference server and conference attendant server.

- Conferencing and database server: Installs the conference server, conference attendant server, and conference database.

- Data server for presence and conferencing: Installs the conference database.

■ Presence server (with database): Presence server, web server, NBX user database, and conference database.

E-Mail (sSMTP) Configuration — This portion of the script configures the Send-only Simple Mail Transfer Protocol (sSMTP) that enables the system to send e-mail notifications when conferences are created or modified, or when users add contacts to their buddy lists.

Database Configuration — Select a database configuration for this server. Select "Local Master" if the server is going to host the master database (All-in-one server, or primary server in a distributed system).

IP Conferencing Module Configuration — Contains parameters for the NBX system software components, including the IP Conferencing Module. Activation keys are entered in this portion of the script.

Initial Installation - Configuration Guidelines

Follow these general guidelines when you perform an initial software installation.

Single Server Configuration

General installation steps:

1 On the single server, run the setup script:

  a When prompted to select the services the system will provide, select 1 (presence and conference - all in one).

  b When prompted to select a database configuration, select 1 (Local Master: this server will have the master database).

  c When prompted to start the 3Com IP Conferencing Services, enter Y.

2 Complete the post-installation configuration (see Post Installation Configuration).

![i] The setup script is divided into five sections:

■ network configuration

■ system configuration

■ e-mail configuration

■ database configuration

■ initial configuration.

These sections run automatically after the command "setup" is entered.

Single Server Initial Installation   The section contains a sample script of the setup script for the single server (all-in-one) configuration).

Sample setup Script (All-in-one server)   The following options are selected in this sample script:

■ All-in-one system configuration (installs the conference server, conference attendant server, web server, NBX user database, and conference & presence database)

■ Master database configuration.

The setup script displays the current settings and then asks you if you want to accept or update them. Sample answers are provided in bold type along with explanations of those answers. Explanations are in italics.

To run the setup script:

1 Log in to the server as **root**.

2 Enter a password (default is pvadmin).

3 Press **Enter** (or Return).

```
-bash-2.05b# setup
```

Enter setup at the command prompt.

```
----------------------------------------------------------------------------
---------- Welcome to the VCX Linux Network Configuration Wizard ----------
----------------------------------------------------------------------------
This wizard sets up networking and related services.
```

Start of Network Configuration

```
Configure networking now? [yes] :
```

Press the Enter or Return key to accept yes as the suggested answer.

```
---------- Configuring Dynamic Host Configuration Protocol (DHCP) ----------

VCX servers can use DHCP for automated configuration, but this requires
that the DHCP server is configured to provide the proper options.  Unless
you know that your environment is set up in this way, you should say 'no'
here and configure static network parameters.

Use DHCP on eth0 to configure network parameters? [no] :
```

```
---------- Configuring Hostname ----------
Enter system hostname [localhost] : conf01.yourcompany.com

---------- Configuring IP Interface 'eth0' ----------
Enter IP Address            [192.168.1.100  ] : 10.20.30.60
Enter Network Subnet Mask   [255.255.255.0  ] : 255.255.255.0
Enter Default Gateway Address  [10.20.30.254  ] : 10.20.30.254

---------- Configuring IP Interface 'eth1' ----------
Interface State          : disabled
```

Note that 'eth1' is not used for the 3Com IP Conferencing Module.

```
---------- Configuring DNS Servers ----------
Enter DNS servers one at a time.
When done, enter 0.0.0.0 to stop.
Primary DNS Server   [192.168.1.1] : 10.25.10.31
Secondary DNS Server [192.168.1.2] : 10.26.10.31
Tertiary DNS Server  [0.0.0.0] : 0.0.0.0

---------- Configuring DNS Search Path ----------
Press Enter to leave the current path unchanged, or specify
a new search path, with spaces separating each entry.

DNS Search Path []: yourcompany.com

---------- Configuring Network Time Protocol ----------
Enter NTP servers one at a time.
When done, enter 0.0.0.0 to stop.

Primary NTP Server   [192.168.1.253] : 10.35.10.51
Secondary NTP Server [192.168.1.252] : 10.36.10.51
Additional NTP Server : 10.1.0.3

------------------------ Configuring Time Zone ------------------------

Please select a geographic location from the following list:
  1. Africa
  2. Americas
  3. Antarctica
  4. Arctic Ocean
  5. Asia
  6. Atlantic Ocean
  7. Australia
  8. Europe
```

```
  9. Indian Ocean
 10. Pacific Ocean
Enter continent [2] :
```

Press the Enter or Return key to accept 2 as the suggested answer.

```
Please select a country from the following list:
  1. Antigua & Barbuda    18. Ecuador           35. Panama
  2. Anguilla             19. Grenada           36. Peru
  3. Netherlands Antilles 20. French Guiana     37. St Pierre & Miquelon
  4. Argentina            21. Greenland         38. Puerto Rico
  5. Aruba                22. Guadeloupe        39. Paraguay
  6. Barbados             23. Guatemala         40. Suriname
  7. Bolivia              24. Guyana            41. El Salvador
  8. Brazil               25. Honduras          42. Turks & Caicos Is
  9. Bahamas              26. Haiti             43. Trinidad & Tobago
 10. Belize               27. Jamaica           44. United States
 11. Canada               28. St Kitts & Nevis  45. Uruguay
 12. Chile                29. Cayman Islands     46. St Vincent
 13. Colombia             30. St Lucia          47. Venezuela
 14. Costa Rica           31. Martinique        48. Virgin Islands (UK)
 15. Cuba                 32. Montserrat        49. Virgin Islands (US)
 16. Dominica             33. Mexico
 17. Dominican Republic   34. Nicaragua
Enter country [44] :
```

Press the Enter or Return key to accept 44 as the suggested answer.

```
Please select a time zone from the following list:
  1. Alaska Time
  2. Alaska Time - Alaska panhandle
  3. Alaska Time - Alaska panhandle neck
  4. Alaska Time - west Alaska
  5. Aleutian Islands
  6. Central Time
  7. Central Time - Michigan - Wisconsin border
  8. Central Time - North Dakota - Oliver County
  9. Eastern Standard Time - Indiana - Crawford County
 10. Eastern Standard Time - Indiana - Starke County
 11. Eastern Standard Time - Indiana - Switzerland County
 12. Eastern Standard Time - Indiana - most locations
 13. Eastern Time
 14. Eastern Time - Kentucky - Louisville area
 15. Eastern Time - Kentucky - Wayne County
 16. Eastern Time - Michigan - most locations
 17. Hawaii
 18. Mountain Standard Time - Arizona
```

```
 19. Mountain Time
 20. Mountain Time - Navajo
 21. Mountain Time - south Idaho & east Oregon
 22. Pacific Time
Enter zone [13] :
Selected Time Zone:      America/New_York

------------------------ CONFIGURATION SUMMARY --------------------------
DHCP state:    disabled

Hostname: conf01.yourcompany.com

IP Interfaces:  Device      IP Address       Network Mask     Default Gateway
                eth0        10.20.30.60       255.255.0.0      10.20.30.254
                eth1        (interface is disabled)

DNS Servers:    10.25.10.31
                10.26.10.31
Search Domains:yourcompany.com

NTP Servers:    10.35.10.51
                10.36.10.51
                10.1.0.3

Time Zone:      America/New_York
-------------------------------------------------------------------------

Is all of the above information correct? [yes] :

-------------------------------------------------------------------------
-------------------------------------------------------------------------
Please wait while the wizard completes.
Saving configuration...Done.
```

End of Network Configuration

The network configuration is complete. If necessary, you can re-run this portion of the script by entering vcx-config-network -wizard.

Start of System Configuration

After successful completion of the network configuration, the script will prompt you to select a set of services.

```
--------------------- Select System Configuration ----------------------
```

```
Individual systems may provide various services in a VCX installation.You
must select the appropriate set of services which this system is to
provide.  Be certain that the selection corresponds to the functionality
you have purchased.

Which services will this system provide?

  1. Presence and Conference - all in one
  2. Conferencing server
  3. Conferencing and database server
  4. Data server for presence and conferencing
  5. Presence server (with database)

Enter your choice (1-5) : 1
```

Select "1" to install the following components:

- conference server

- conference attendant server

- presence server

- web server

- NBX user database

- conference & presence database.

```
You have chosen to configure this system to provide:

  Presence and Conference - all in one

Note that in order for these services to work, you must have purchased an
appropriate license and installed the corresponding license activation key
on this system.

 *** WARNING ***   Once you confirm your selection, you cannot change it.

Are you absolutely certain that you wish to configure this system as an
'Presence and Conference - all in one' server?If you answer 'no' here you
can choose an alternative configuration.

Confirm selection? [no] : y
```

Confirm your selection by typing "y."

```
Selection confirmed.
```

```
*** Assembling VCX.2.9.3 using 'VSBOM.xml' ***
*** Processing components ***
*** Executing assembly commands ***
*** Assembly complete ***

The VCX assembly has been created.  Preparing system for use:

Performing early startup tasks: [  OK  ]


Starting VCX-Firewall:  [  OK  ]


Starting httpd:

Removing unneeded application components from the system.
This may take several minutes.  Please wait while the operation completes.

Determining which packages are not used by any VCX version:

 oem.7.0.1                              : [keep; used in 2.9.3]
 presconf.2.5.3                         : [keep; used in 2.9.3]
 presconf-conf.2.5.3                    : [keep; used in 2.9.3]
 presconf-presence.2.5.3                : [keep; used in 2.9.3]
 presconf-vcxdb.2.5.3                   : [keep; used in 2.9.3]
 presconf-web.2.5.3                     : [keep; used in 2.9.3]
 vcx-firewall.1.5.5                     : [keep; used in 2.9.3]
 mysql.3.23.58                          : [keep; used in 2.9.3]

No extra packages were found.
```

End of System Configuration

The system configuration is complete. If necessary, you can re-run this portion of the script by entering vcx-setconfigtype.

Start of E-mail (sSMTP) Configuration

After successful completion of the system configuration, the script will prompt you to set up the e-mail notification utility. The utility sends e-mails when conferences are created and modified, and when users attempt to add contacts to their buddy lists. E-mail notification works

> once users have added their e-mail addresses to the 3Com IP
> Conferencing Module.

```
Configuration for sSMTP

(1) mailhub
This is the computer responsible for handling your outgoing mail. It could be the
SMTP server of your ISP, or a departmental mailhub. Use the fully-qualified domain
name (foo.bar.baz) of the mailhub; if it uses an unusual SMTP port number, use the
colon syntax
  foo.bar.baz:2525
Otherwise sSMTP will use the standard SMTP port number (25).
(Note that sSMTP can support a user-dependent mailhub with the 'reverse aliases'
feature, for which see the man page.)

Please enter your mailhub []: mail.yourcompany.com
```

*Enter the fully qualified domain name of the computer handling outgoing
mail.*

```
(2) FromLineOverride
This specifies how sSMTP handles the From: line of outgoing mail. If
FromLineOverride=YES, sSMTP will leave the From: line alone if it already exists.
If FromLineOverride has any other value, or there is no From: line, sSMTP creates
the From: line using your username (or the -f command-line option), and the value of
the rewriteDomain option (step (4), below). If you use a mail user agent (MUA; e.g.
mutt, pine) I recommend using YES and having the MUA set the From: line.
(Exception: the 'reverse aliases' feature can be used to set up a particular From:
address for each user, in which case don't use FromLineOverride=YES. See the man
page.)

FromLineOverride? [YES]:
```

Specify how sSMTP handles the From: line of outgoing mail.

```
(3) hostname
sSMTP uses the hostname of your computer to identify itself to the mailhub, and in
the Received: headers of the outgoing mail. This has relatively little effect on how
the mail is handled. Use the fully-qualified domain name (FQDN) of your
computer(foo.bar.baz).  If it doesn't have a FQDN, use some name for your box.

Hostname of your box [conf01.yourcompany.com]:
```

Enter the host name of your computer handling outgoing mail.

```
(4) rewriteDomain
Please enter the mail name of your system.
sSMTP uses this value to add a domain to unqualified e-mail addresses(addresses
without an @-sign).
```

```
You probably want to use the domain from your own e-mail address.You probably want
to set up your MUA to handle unqualified addresses itself, in which case sSMTP will
never have to use this.
```

Mail name [conf01.yourcompany.com]:**yourcompany.com**

Enter the mail name of your system.

```
(5) root
Last and least: if sSMTP finds an unqualified e-mail address among the recipients,
and it corresponds to a username on your local machine with a userid less than 1000,
then the e-mail is sent to this value instead.  The idea is that mail sent to 'root'
should probably go to 'postmaster' instead.

If you set up your MUA to do its own handling of unqualified
addresses, this is irrelevant.  Use the default value of 'postmaster' or your own
e-mail address if you're paranoid.
```

System users receive mail at [postmaster]:**postmaster**

Enter the system user e-mail address.

Note: check with your e-mail administrator for the proper system user e-mail address.

```
Wrote configuration file /etc/ssmtp/ssmtp.conf

Starting mysqld daemon with databases from /opt/3comdata/mysql
Tcl is already installed
Tcl version is 8.3
 Please report any installation problem to
    "3Com Support" <support@3com.com>
```

End of E-mail (sSMTP) Configuration

The e-mail configuration is complete. If necessary, you can re-run this portion of the script by entering usr/sbin/smtp-configure.

Start of Database Configuration

After successful completion of the e-mail configuration, the script will prompt you to select a database configuration.

```
There are different ways to install and access the database.
1 Local Master: this server will have the master database.
2 Local Slave: this server will have a slave database.
```

```
3 Remote database: database is on another server.
Please choose one of the above options: 1
```

Select "1" to specify that this server will initially host the master database (All-in-one server, or primary server in a distributed system).

```
Available applications: sipconf,sipvxml,gui,vcxdb,sippeng,
```

End of Database Configuration

The database configuration is complete. If necessary, you can re-run this portion of the script by entering presconf-setup.

Start of IP Conferencing Module Configuration

After successful completion of the database configuration, the script will prompt you to select an initial configuration.

```
Enter the fully qualified hostname for this installation.
[host.yourcompany.com]:
```

Enter the fully qualified hostname of the machine you are installing on.

```
Assuming the userid of the administrator who will manage the
applications for your domain is root

Enter the administrator's email address. [sipadmin@yourcompany.com]:
Assuming default value as sipadmin@yourcompany.com
```

Enter the administrator's e-mail address. The default is derived from the hostname defined in the network configuration (above).

If the system is configured to send e-mail notification of conference events to users, the e-mails will appear to be sent from the administrator (sipadmin@yourcompany.com). Note that some mail agents may require this to be a valid e-mail address.

```
Host Identifier (hostid) of this machine is: 75896dc20fa90922ddbb2b81


Please send an email to vcxconf@3com.com to receive an activation key to activate
this product.

Please enter the software activation keys one by one; end with an empty line:
```

Send the host ID to 3Com, which will use it to generate your activation keys. Once 3Com has returned the activation keys to you, you can paste them into the install session when prompted.

The activation keys are validated as they are entered. If validation is successful, the keys will be stored in a license file and the installation session will continue. If validation is unsuccessful, the installation session will be aborted.

```
Enter key:
sipconf:-:+:2006-11-11:2006-11-11:300-300-1-1-1:124b4835f1a6e9a172f4ba6596fe1f85
key ok for sipconf
Enter key: sipvxml:-:+:2006-11-11:2006-11-11:50-50:b4acb4c5415c8005d0b8bd737f8a1d5b
key ok for sipvxml
Enter key: sippeng:-:+:2006-11-11:2006-11-11:-:dcdb0531a90ffbf027786aa0a4732a98
key ok for sippeng
Enter key:
License file name: /opt/3com/components/presconf.2.5.3/presconf_licenses
Validating the license for sipconf application ...
The license key
sipconf:-:+:2006-11-11:2006-11-11:300-300-1-1-1:124b4835f1a6e9a172f4ba6596fe1f85 is
valid

Validating the license for sipvxml application ...
The license key
sipvxml:-:+:2006-11-11:2006-11-11:50-50:b4acb4c5415c8005d0b8bd737f8a1d5b is valid

Validating the license for sippeng application ...
The license key
sippeng:-:+:2006-11-11:2006-11-11:-:dcdb0531a90ffbf027786aa0a4732a98 is valid

MySQL is needed for your application.
mysql is found at /opt/3com/VCX/bin/mysql
Assuming mysql is already installed

Enter the mysql user name for accessing the master database.[root]:
Assuming default value as root

Enter the host name on which the master database is running. [localhost]:
Assuming default value as localhost

Enter the mysql password for user root at localhost. [NULL]:
Assuming default value as NULL

The SIP conferencing server will be running at conf01.yourcompany.com:5060
```

```
The Conference Attendant Server will be running at conf01.yourcompany.com:5092

The range of the numeric conference names must be specified

Enter the minimum value for numeric conference names. [8000]:
```

Enter the minimum value for numeric conference names. Default is 8000.

```
Enter the maximum value for numeric conference names.  Note that
it must have the same number of digits as the minimum value. :
```

Enter the maximum value for numeric conference names.

```
For conference server, the prefix of ad hoc conference can be specified
Enter the prefix for ad hoc conference. [2join]:
```

Enter the prefix for ad hoc conferences.

```
Enter the prefix for group call conferences. [777]:
Value entered by user is: 777
```

Enter the prefix for group calls.

```
Enter the IP address of the primary dialout proxy:
Value entered by user is: 10.1.15.5
```

Enter the IP address of the primary NBX system used for DTMF dialout during conferences.

```
Enter the IP address of the secondary dialout proxy:
Assuming default value as
```

Enter the IP address of the secondary NBX system used for DTMF dialout during conferences.

```
Enter the digitmap for DTMF dialout.[[1-7]XX|9XXXXXXXXX|91XXXXXXXX|9011.XT]:
Assuming default value as [1-7]XX|9XXXXXXXXX|91XXXXXXXX|9011.XT
```

Enter the digit map used to define the dial plan for DTMF dialout.

Several lines of text appear before the next prompt.

```
-- Creating cinema_db.conf
-- Changing permissions of all the files in /opt/3com/components/presconf.2.2.2.190
to 755.
-- Trying to load fbsql.so...
-- fbsql is loaded...
-- Opening the database sql://root:NULL@localhost/mysql
```

```
-- Changing permissions for conf01.yourcompany.com
-- Changing permissions for localhost
-- Changing permissions for conf01.yourcompany.com
-- Changing permissions for conf01.yourcompany.com
-- Changing permissions for conf01.yourcompany.com
-- Flushing privleges
-- Calling createdb
*** Checking table vxml_users ***
Creating table vxml_users
*** Checking table put ***
Creating table put
*** Checking table aliases ***
Creating table aliases
*** Checking table about ***
Creating table about
*** Checking table requestlog ***
Creating table requestlog
*** Checking table gwclass ***
Creating table gwclass
*** Checking table debug_config ***
Creating table debug_config
*** Checking table personnote ***
Creating table personnote
*** Checking table confatt_record ***
Creating table confatt_record
*** Checking table dialplan ***
Creating table dialplan
*** Checking table radius_config ***
Creating table radius_config
Cannot select database sip: Error 1049 (Unknown database 'sip')
*** Checking table display ***
Creating table display
*** Checking table domain ***
Creating table domain
*** Checking table sipd_log ***
Creating table sipd_log
*** Checking table conferences ***
Creating table conferences
*** Checking table eventattendee ***
Creating table eventattendee
*** Checking table user_config ***
Creating table user_config
*** Checking table cinema ***
Creating table cinema
*** Checking table address ***
Creating table address
```

```
*** Checking table confinstances ***
Creating table confinstances
*** Checking table person ***
Creating table person
*** Checking table conf_log ***
Creating table conf_log
*** Checking table agendaitem ***
Creating table agendaitem
*** Checking table Rooms ***
Creating table Rooms
*** Checking table resource ***
Creating table resource
*** Checking table conffiles ***
Creating table conffiles
*** Checking table event ***
Creating table event
*** Checking table acl ***
Creating table acl
*** Checking table license ***
Creating table license
*** Checking table vote ***
Creating table vote
*** Checking table presence_conf ***
Creating table presence_conf
*** Checking table eventresource ***
Creating table eventresource
*** Checking table speed_dial ***
Creating table speed_dial
*** Checking table vcxdb_conf ***
Creating table vcxdb_conf
*** Checking table RoomACL ***
Creating table RoomACL
*** Checking table Cards ***
Creating table Cards
*** Checking table groupmember ***
Creating table groupmember
*** Checking table subscription ***
Creating table subscription
*** Checking table messageboard ***
Creating table messageboard
*** Checking table confsrv_config ***
Creating table confsrv_config
*** Checking table ua_capabilities ***
Creating table ua_capabilities
*** Checking table trusted_host ***
Creating table trusted_host
```

```
*** Checking table vmail ***
Creating table vmail
*** Checking table tariff ***
Creating table tariff
*** Checking table RoomPrefs ***
Creating table RoomPrefs
*** Checking table contacts ***
Creating table contacts
*** Checking table ConfigData ***
Creating table ConfigData
*** Checking table confservers ***
Creating table confservers
*** Checking table eventcategory ***
Creating table eventcategory
*** Checking table user_presence ***
Creating table user_presence
*** Checking table location_tuples ***
Creating table location_tuples
*** Checking table Credentials ***
Creating table Credentials
*** Checking table mail_account ***
Creating table mail_account
*** Checking table eventgroup ***
Creating table eventgroup
*** Checking table eventgroup_notify ***
Creating table eventgroup_notify
*** Checking table gateway_map ***
Creating table gateway_map
*** Checking table confusers ***
Creating table confusers
*** Checking table thirdparty ***
Creating table thirdparty
*** Checking table election ***
Creating table election
*** Checking table persongroup ***
Creating table persongroup
*** Checking table sipd_config ***
Creating table sipd_config
*** Checking table ssl_config ***
Creating table ssl_config
-- createdb is complete
-- *IMPORTANT*: Adding administrator root@yourcompany.com with password root
-- Database is successfully initialized.

MYSQL host is localhost
MYSQL user is root
```

```
Enter the IP address of the VCX Data Server: 10.20.30.40
```
                        Enter the IP address of the NBX data server that contains the global
                        directory of users to be downloaded to this IP Conferencing Module.

```
Enter the username for VCX DB Sync:  vcx
```
                        Enter the username for NBX database synchronization.

```
Enter the password for VCX DB Sync: vcx
```
                        Enter the password for NBX database synchronization. The password
                        does not echo on the screen.

```
Do users on this VCX have their home presence server on this installation (y/n)?[y]:
Assuming the default value as y
```
                        Enter no [n] if the NBX data server containing the global directory of users
                        (see above) is not a local NBX for this installation.

```
# 10.20.30.40 SSH-1.99-OpenSSH_3.6.1p2
# 10.20.30.40 SSH-1.99-OpenSSH_3.6.1p2


OK

now testing if we can connect to the 10.20.30.40
vcx

updating the configuration database entries
3Com IP Conferencing Module applications will be automatically restarted  when
system reboots

-- Installing SIP Conferencing servers ...

-- Changing permissions of all the files in /opt/3com/components/presconf.2.5.3.
-- Changing owner and permissions of
/opt/3com/components/presconf.2.5.3/sipconf/sipconf.
restarting httpd...

Creating a directory client_config to hold the soft client
autoconfiguration files...

Directory created successfully at
  /opt/3com/components/presconf.2.5.3/client_config
Any files that you store in this directory are accessible via
  http://master.yourcompany.com/3c3/<CONFIGFILENAME>.xml

If you have not already entered the license string during installation
you must do so from the web interface before trying to run any
application in 3Com software.
```

```
You may start, stop and monitor the 3Com IP Conferencing Module applications using
the following command(s):
> service <application> start|stop|status|restart
Else, you may do so using the web interface.

Your installation is complete.
To add new user or to change your profile visit appropriate
URL corresponding to /opt/3com/components/presconf.2.5.3/gui.

Once again,  Please report any installation problem to
    "3Com Support" <support@3com.com>


**************************************************
* Output, from this install session, was saved to:
*  /opt/3com/components/presconf.2.5.3/install_log.Dec_07_2005
**************************************************

Would you like to start the 3Com IP Conferencing Module services now?
(N/Y) [N]: y
```

Select "Y" to complete the installation and start the 3Com IP Conferencing Module services. Select "N" (the default) to complete the installation but not start the services.

```
Validating configuration file

Configuration file is valid for this release.
Applying configuration to all unconfigured components

Configuring VCX components:
Configuring vcx-firewall-firstboot: [  OK  ]


Configured VCX components: 1 configured.
Component configuration succeeded.
Stopping VCX-Firewall:  [  OK  ]


Starting VCX-Firewall:  [  OK  ]


Starting VCX Services:
Starting vcx/mysql: [  OK  ]


Starting vcx/confbridge:  [  OK  ]


Starting vcx/sipconf: [  OK  ]
```

```
Starting vcx/sippeng:  [  OK  ]

Starting vcx/vcxdb:  [  OK  ]

Started VCX Services: 5 started.
-bash-2.05b#
```

End of IP Conferencing Module Configuration

Following successful completion of the script, the 3Com IP Conferencing Module services will be installed. Start the services using a script command, shell command, or web interface selection (as noted above).

Post Installation Configuration

Before the 3Com IP Conferencing Module can be used, the system must be configured to work with it. The following items must be set up:

- Create Routes to the:
    - Conference Server
    - Conference Attendant
- Add Trusted SIP Interfaces
- Configure the IP Conferencing Module
- Test the E-mail Notification Setup.

Set up Routes

You must program the NBX dial plan with routes to the conference server and the conference attendant server.

For information on how to program the NBX dial plan, see the *3Com NBX Administrator's Guide*.

To create routes to the conference server/conference attendant server:

1 Using a browser, log in to the NBX system as admin (default password is besgroup).

2 Program the digit sequence for conferences. For example, to program the range 8000 to 8999, enter:

Command	ID	Entry	Digit	Min	Max	Class	Priority	Route
TableEntry Create	1	32	8	4	4	Internal	0	8

<table>
<tr><td>**i**</td><td>*Different conference types may require different routes. For example, if users dial the prefix 76 to call Ad Hoc conferences and 74 to call other conferences, then one route is required for dial pattern 76 and another is required for dial pattern 74.*</td></tr>
</table>

3 Program the Conference Attendant extension number. For example, to program extension 7501, enter:

Command	ID	Entry	Digit	Min	Max	Class	Priority	Route
TableEntry Create	1	33	7501	4	4	Internal	0	8

4 Program a route for conferences. For example:

Command	Route	Description
DestinationRoute Create	8	Conferences

5 Program a destination route entry for the NBX extension of the 3Com IP Conferencing Module. For example:

Command	Route	Entry	DestinationExtension
DestinationRouteEntry Create	8	1	7500

Add Trusted SIP Interfaces

Trusted SIP Interfaces may be SIP gateways, other NBX systems, 3Com VCX telephone systems, Call Processors, or other trusted interfaces. Each interface you add and how you configure it affects your device licensing. Each audio path trusted end point requires one system device license.

You do not add telephones as trusted interfaces. For information about how to add 3Com telephones and generic SIP telephones to the NBX SIP mode system, see the *NBX Administrator's Guide*.

To add or modify a trusted SIP interface:

1 See the *NBX Administrator's Guide* for more information about the details in these steps.

2 Log in to the NBX NetSet utility using the administrator login ID and password.

3 Click *SIP Applications > Trusted SIP Interfaces*.

4 Click *Add* to add a new trusted interface or click an extension from the list to modify that trusted interface.

5 See the online Help for detailed information about each field.

Configuring the IP Conferencing Module

The IP Conferencing Module supports two types of Meet-Me conferences:

- **Public** — Public conferences are dial-in conferences in which a caller can dial a conference extension and connect directly to the conference.
- **Restricted** — Restricted conferences are secure conferences. Callers must authenticate themselves before the system allows them to join a conference. The system connects a caller to the IP Conferencing Module Attendant, which requires the caller to provide a Conference ID and a password.

Use the NBX NetSet utility to configure IP Conference Server and Conference Attendant settings:

- 3Com Conferencing servers use different UDP ports for Restricted and Public conferences. Therefore, you must configure these ports separately in the NBX NetSet utility.
- You must configure a dedicated conference extension to enable callers to connect to the IP Conferencing Module Attendant.
- Each conference you add is a trusted SIP interface, which the system includes in the Trusted SIP Interfaces list.
- You must edit your dial plan to complete the 3Com IP Conferencing Module configuration.

To configure IP Conference Server:

1 See the *NBX Administrator's Guide* for more information about the details in these steps.
2 Log in to the NBX NetSet utility using the administrator login ID and password.
3 Click *SIP Applications > 3Com IP Conferencing Module.*
4 Type the extension that the system uses for IP Conferencing. This extension must be an unused extension on the system in the range of external extensions, which is defined as 6000-7999 by default in a 4-digit dial plan. You must use a different extension from the one you use to configure the Conference Attendant settings.
5 Type a description for the IP Conferencing Module.
6 Type the IP address for the IP Conferencing Module.

7 Type a port number. A SIP endpoint is identified by the IP and port combination.

Port 5060 is set as the default during installation and typically does not need to be changed.

8 Type the maximum number of simultaneous sessions. Each session requires one system device license. See the *NBX Administrator's Guide* for more information.

9 Click *OK* or *Apply* to save your changes.

When you click *Apply*, the system adds a trusted endpoint. Click *SIP Applications > Trusted SIP Interfaces* to verify.

10 Configure the dial plan.

You must add an extension list to the dial plan to support routing of extensions to the conference server or edit the extension list, if one has already been created.

To configure the settings of the Conference Attendant for restricted conferences:

1 See the *NBX Administrator's Guide* for more information about the details in these steps.

2 Log in to the NBX NetSet utility using the administrator login ID and password.

3 Click *SIP Applications > 3Com IP Conferencing Module,* and then click the Conference Attendant Settings tab.

4 Type the extension that the system uses for IP Conferencing. This extension must be an unused extension on the system in the range of external extensions, which is defined as 6000-7999 by default in a 4-digit dial plan. You must use a different extension from the one you used to configure the IP Conference Server settings.

5 Type a description for the IP Conferencing Module.

6 Type the IP address for the IP Conferencing Module.

7 Type a port number. A SIP endpoint is identified by the IP and port combination.

Port 5092 is the port number defined in the IP Conferencing server for running the Conference Attendant.

8 Type the maximum number of simultaneous sessions. Each session requires one system device license.

9 Click *OK* or *Apply* to save your changes.

When you click Apply, the system adds a trusted endpoint. Click *SIP Applications > Trusted SIP Interfaces* to verify.

10 Configure the dial plan. You must add an extension list to the dial plan to support routing of extensions to the conference server or edit the extension list if one has already been created.

Dial Plan and 3Com IP Conferencing Module Configuration

You must configure the dial plan to complete the 3Com IP Conferencing Module configuration. The following procedure describes the process.

1 See the *NBX Administrator's Guide* for more information about the details in these steps.

2 Add an extension list to the dial plan to support routing of extensions to the 3Com IP Conferencing Module.

For example, you can define the 3Com IP Conferencing Module extension list as follows:

```
/                          Route      Description
/                          -----      -----------
DestinationRoute Create    900        Conference

/                          Route   Entry   DestinationExtension
/                          -----   -----   --------------------
DestinationRouteEntry Create   9    1       *0900

/ Extension List *0900 holds the internal extension of 3Com IP Conferencing Module
```

3 Create a route entry in the dial plan for the dialed-in digits the telephone user of the 3Com IP Conferencing Module enters.

For example, using the extension list created in Step 1, the entry below shows a dial-in that begins with 900.

```
/                      ID    Entry   Digits   Min   Max   Class PrioRoute
/                      ---   -----   ------   ---   ---   ---- ---------
Table Entry Create     1     6       900      3     3     internal0900
```

Therefore, if the caller dials 900, the system receives the extension of the 3Com IP Conferencing Module and the port number for the private conference from the dial plan. The system can route the call to the 3Com IP Conferencing Module.

3Com Public IP Conferencing Module Configuration

You must configure the dial plan to complete the 3Com Public IP Conferencing Module configuration. The dial plan uses the private conference dial plan if it is configured; otherwise, you need to configure the dial plan for Public conference.

The only change required is in the dial plan prefix entry table because in a Public conference, you need to define a range of extensions rather than a single extension.

For example, using the above configuration and taking the case that the extensions range from 700-799, the table entry can be as follows:

```
/                   ID    Entry   Digits  Min   Max   Class PrioRoute
/                   ---   -----   ------  ---   ---   ---- ---------
Table Entry Create  1     7       7       3     3     internal0900
```

If the caller dials 700, the system receives the extension of 3Com IP Conferencing Module and the port number for the Public conference from the dial plan. The system can route the call to the 3Com IP Conferencing Module.

Test E-Mail Notification Setup

Run the following test to ensure that the e-mail setup works correctly.

1 Log in to the server as **root**.

2 At the prompt, enter:

```
/usr/sbin/sendmail user@domain.com
From: sender@domain.com
To: user@domain.com
Subject: test e-mail
[blank line]
test1
test1
test1
```

3 Ctrl-D

Be aware that most Mail Transfer Agents (MTAs) require valid To: and From: addresses.

If the user fails to receive the e-mail message, check for errors in `/opt/logs/vcx-linux/maillog`. After resolving the problem, run the E-Mail setup again.

Upgrade Installation

Software upgrades are completed by running two scripts: install-upgrade and vcx-switchversion. The install-upgrade script upgrades the VCX Linux operating system to the latest version (if necessary) and installs the software packages. The vcx-switchversion script provisions the system with the software packages.

It is possible to upgrade from Apps 2.0 to Apps 3.0 provided that the server is designated as either an all-in-one or primary server.

Sample install-upgrade Script

To run the install-upgrade script:

1 Untar the software files and add them to a directory on the server.

2 Log in to the server as **root**.

3 Enter a password (default is pvadmin).

4 Go to the directory where the software files are located.

5 Press **Enter** (or Return).

```
-bash-2.05b# ./install-upgrade
```

Enter ./install-upgrade at the command prompt.

Start of install-upgrade Script

```
--------------------------------------------------------------------------
------------------------ VCX Upgrade Installer ---------------------------
--------------------------------------------------------------------------

----------------------- Pre-Installation Checks -----------------------

Checking that required files are present...

Checking which packages are needed...

  3ComInstall-1.1-1.noarch.rpm             : already present
  vcx-firewall-1.5.5-1.noarch.rpm          : needed
  mysql-3.23.58-1.i386.rpm                 : already present
```

```
   presconf-2.5.13-1.i386.rpm                : needed
   presconf-conf-2.5.13-1.i386.rpm           : needed
   presconf-presence-2.5.13-1.i386.rpm       : needed
   presconf-vcxdb-2.5.13-1.i386.rpm          : needed
   presconf-web-2.5.13-1.i386.rpm            : needed
   oem-a-7.0.1-2.i386.rpm                    : needed

Checking for available disk space...

   Determining required space: ....... Done.
   Required space  :        33581 K
   Available space :     59679580 K
   There is sufficient disk space.

--------------------------- OS Installation ----------------------------
OS file to install  : vcx-linux-4.4.0-111505.000
Target OS partition : 'A', device /dev/sda2
Replacing version   : 3.2.4
Continue with OS installation? [yes] :

Installing partition image on /dev/sda2.

partimage: status: initializing the operation
partimage: status: reading partition informations
partimage: status: copying used data blocks
partimage: status: commiting buffer cache to disk.
/dev/sda2: 39554/251392 files (0.1% non-contiguous), 117820/502023 blocks
resize2fs 1.32 (09-Nov-2002)
The filesystem on /dev/sda2 is now 526128 blocks long.

tune2fs 1.32 (09-Nov-2002)
Setting maximal mount count to -1
Setting interval between check 15552000 seconds

Updating fstab files.

Configuring GRUB boot loader...Done.

Transferring configuration data.

Checking kernel configuration:
...Selecting standard kernel
Done.
Copying configuration files:
 hosts
 passwd
 group
 resolv.conf
 ntp.conf
 modules.conf
```

```
 sysconfig/network
 sysconfig/hwconf
 sysconfig/network-scripts/ifcfg-eth0
 sysconfig/network-scripts/ifcfg-eth1
 .vcx-config-network
 ssmtp/revaliases
 ssmtp/ssmtp.conf
 ssh/ssh_config
 ssh/sshd_config
 ssh/ssh_host_key
 ssh/ssh_host_key.pub
 ssh/ssh_host_dsa_key
 ssh/ssh_host_dsa_key.pub
 ssh/ssh_host_rsa_key
 ssh/ssh_host_rsa_key.pub
 httpd/conf/ssl.key/server.key
 httpd/conf/ssl.crt/server.crt
Done.
Copying user specific SSH files:
 /root/.ssh
Done.
Setting console speed to 9600: Done.
Configuring timezone: Done.
Transferring cron entries:
Done.
Migrating CUPS configuration: Done.
Updating /usr/sbin/vcx-switchversion: Done.
Updating /usr/sbin/vcx-showmachineid: Done.
Updating /usr/sbin/vcx-licensequery: Done.
Updating /usr/sbin/vcx-licenseinstall: Done.
Updating /usr/sbin/vcx-updatecfg: Done.
Updating /usr/sbin/vcx-createcfg: Done.
Configuration transfer completed successfully.

------------------------ Package Installation --------------------------

Installing 7 packages...

  vcx-firewall-1.5.5-1.noarch.rpm          : OK
  presconf-2.5.13-1.i386.rpm               : OK
  presconf-conf-2.5.13-1.i386.rpm          : OK
  presconf-presence-2.5.13-1.i386.rpm      : OK
  presconf-vcxdb-2.5.13-1.i386.rpm         : OK
  presconf-web-2.5.13-1.i386.rpm           : OK
  oem-a-7.0.1-2.i386.rpm                   : OK

7 packages installed.
--------------------------- Final Assembly ----------------------------

Installing assembly package...
```

```
   vcx-assembly-APPS-2.9.13-1.i386.rpm      : OK

Assembly package installed.

------------------ Installation Completed Successfully ------------------
------------------ VCX version 2.9.13 is now available ------------------
```

End of install-upgrade Script

Record the version number that appears at the end of the install-upgrade script. You will need it to run the next script (the system provisioning script).

Sample vcx-switchversion Script

Run the switchversion script after completing the install-upgrade script for a software upgrade. This script provisions the system with the latest software application packages.

The vcx-switchversion script takes the system out of service for several minutes. Accordingly, run the script during a period of low system activity.

To run the switchversion script:

1 Log in to the server as **root**.

2 Enter a password (default is pvadmin).

3 Go to the directory where the software files are located.

4 Press **Enter** (or Return).

```
-bash-2.05b# vcx-switchversion 2.9.3
```

*Enter **vcx-switchversion <version-number>** at the command prompt. For **<version-number>**, enter the VCX version number that appeared at the end of the install-upgrade script.*

Start of vcx-switchversion Script

```
-bash-2.05b# vcx-switchversion 2.9.13
Checking if VCX can switch to VCX.2.9.13
ls: /opt/3com/VCX.2.9.13/scripts/upgrade/C??*: No such file or directory
Checking os versions: YES
Switching VCX to VCX.2.9.13:
...setting up
...checking if this is a VCX 5.X upgrade: no
...checking if existing configuration file is valid for new version.
...copying existing configuration file.
```

```
...selecting operating system partition
The currently active OS is 'B', OS version 3.3.1
Selecting OS installation 'A', OS version 4.4.0
Configuring GRUB boot loader...Done.
Version switch complete.  Rebooting to start new version.

Broadcast message from root (pts/0) (Tue Dec 20 11:21:43 2005):

The system is going down for reboot NOW!
```

End of vcx-switchversion Script

> **i** *If upgrading from release 2.0 to release 3.0, you will be required to add new activation keys (license keys).*

Managing the Activation Keys

If you have purchased new applications, or need to increase the number of users on your system, then you may need to upgrade your activation keys (license keys). Each system has a unique system host ID that is used in the generation of activation keys.

Before upgrading the activation keys, first ensure that the VCX Linux operating system and the 3Com IP Conferencing Module software is installed. Then do the following:

1 Using a browser, log in to the 3Com IP Conferencing Module as **root**.

2 Select **Admin > System Config** from the menu bar.

3 From quick links, select **Licensing Information**.
The License Information screen appears, listing the system's activation keys and host ID.

Figure 2 License Information

Application ▲	Domain	Hostid	Expiration date	Update expiry date	Features	Hash value	Delete?
sipconf	3conf.com +		2005-12-14	2005-12-14	300-100-1-1-1	5bc8512e8fb6dc80913487a66dd8b43c	🗑
sippeng	3conf.com +		2005-12-14	2005-12-14	-	e83df1ca6f15805d7a1b0fae9c79c69f	🗑
sipvxml	3conf.com +		2005-12-14	2005-12-14	-	242eaa6d9d7ac5d2e911324fb9f7f6fa	🗑

hostid of this machine is: "3157ecf668ffcb7dc7f00e4c"
Enter the complete license string here, e.g., sipd:example.com:+:-:2005-12-31:encrypted-text-for-verification

[   ] [Add]

4 To delete an activation key, press 🗑 .

5 To add an activation key:

    a Send the host ID (located at the bottom of the screen) to 3Com.

    b When 3Com returns the new activation key, paste it into the license string box and press **Add**.

You can also determine the system host ID with a Linux command:

1 Log in to the server as **root**.

2 At the prompt, enter `cd /opt/3com/VCX/presconf/tools/license`

3 Enter `./hostid`

The Host ID is displayed. For example: `3157ecf668ffcb7dc7f00e4c`

> *Please note that the ./hostid command you enter in the license directory is not the same as the hostid command normally used with Linux (/usr/bin/hostid).*

3

OBTAINING SUPPORT FOR YOUR PRODUCT

Register Your Product

Warranty and other service benefits start from the date of purchase, so it is important to register your product quickly to ensure you get full use of the warranty and other service benefits available to you.

Warranty and other service benefits are enabled through product registration. Register your product at **http://eSupport.3com.com/**. 3Com eSupport services are based on accounts that you create or have authorization to access. First time users must apply for a user name and password that provides access to a number of eSupport features including Product Registration, Repair Services, and Service Request. If you have trouble registering your product, please contact 3Com Global Services for assistance.

Purchase Value-Added Services

To enhance response times or extend warranty benefits, contact 3Com or your authorized 3Com reseller. Value-added services like 3Com Express[SM] and Guardian[SM] can include 24x7 telephone technical support, software upgrades, onsite assistance or advance hardware replacement. Experienced engineers are available to manage your installation with minimal disruption to your network. Expert assessment and implementation services are offered to fill resource gaps and ensure the success of your networking projects. More information on 3Com maintenance and Professional Services is available at **http://www.3com.com/**

Contact your authorized 3Com reseller or 3Com for a complete list of the value-added services available in your area.

Troubleshoot Online	You will find support tools posted on the 3Com web site at `http://www.3com.com/`

3Com Knowledgebase helps you troubleshoot 3Com products. This query-based interactive tool is located at `http://knowledgebase.3com.com` and contains thousands of technical solutions written by 3Com support engineers.

Access Software Downloads

Software Updates are the bug fix / maintenance releases for the version of software initially purchased with the product. In order to access these Software Updates you must first register your product on the 3Com web site at `http://eSupport.3com.com/`

First time users will need to apply for a user name and password. A link to software downloads can be found at `http://eSupport.3com.com/`, or under the Product Support heading at `http://www.3com.com/`

Software Upgrades are the software releases that follow the software version included with your original product. In order to access upgrades and related documentation you must first purchase a service contract from 3Com or your reseller.

Telephone Technical Support and Repair

To enable telephone support and other service benefits, you must first register your product at `http://eSupport.3com.com/`

Warranty and other service benefits start from the date of purchase, so it is important to register your product quickly to ensure you get full use of the warranty and other service benefits available to you.

When you contact 3Com for assistance, please have the following information ready:

- Product model name, part number, and serial number
- Proof of purchase, if you have not pre-registered your product
- A list of system hardware and software, including revision level
- Diagnostic error messages
- Details about recent configuration changes, if applicable

To send a product directly to 3Com for repair, you must first obtain a return authorization number (RMA). Products sent to 3Com, without authorization numbers clearly marked on the outside of the package, will be returned to the sender unopened, at the sender's expense. If your product is registered and under warranty, you can obtain an RMA number online at **http://eSupport.3com.com/**. First time users will need to apply for a user name and password.

Contact Us

3Com offers telephone, e-mail and internet access to technical support and repair services. To access these services for your region, use the appropriate telephone number, URL or e-mail address from the list below.

Telephone numbers are correct at the time of publication. Find a current directory of contact information posted on the 3Com web site at **http://csoweb4.3com.com/contactus/**

Country	Telephone Number	Country	Telephone Number
Asia, Pacific Rim Telephone Technical Support and Repair			
Australia	1 800 678 515	Philippines	1235 61 266 2602 or
Hong Kong	800 933 486		1800 1 888 9469
India	+61 2 9424 5179 or	P.R. of China	800 810 3033
	000800 650 1111	Singapore	800 6161 463
Indonesia	001 803 61009	S. Korea	080 333 3308
Japan	00531 616 439 or	Taiwan	00801 611 261
	03 3507 5984	Thailand	001 800 611 2000
Malaysia	1800 801 777		
New Zealand	0800 446 398		
Pakistan	+61 2 9937 5083		
You can also obtain support in this region using the following e-mail: **apr_technical_support@3com.com**			
Or request a repair authorization number (RMA) by fax using this number:			+ 65 543 6348
Europe, Middle East, and Africa Telephone Technical Support and Repair			
From anywhere in these regions, call:	+44 (0)1442 435529		
From the following countries, you may use the numbers shown:			

Country	Telephone Number	Country	Telephone Number
Austria	01 7956 7124	Luxembourg	342 0808128
Belgium	070 700 770	Netherlands	0900 777 7737
Denmark	7010 7289	Norway	815 33 047
Finland	01080 2783	Poland	00800 441 1357
France	0825 809 622	Portugal	707 200 123
Germany	01805 404 747	South Africa	0800 995 014
Hungary	06800 12813	Spain	9 021 60455
Ireland	1407 3387	Sweden	07711 14453
Israel	1800 945 3794	Switzerland	08488 50112
Italy	199 161346	U.K.	0870 909 3266

You can also obtain support in this region using the following URL:
http://emea.3com.com/support/email.html

Latin America Telephone Technical Support and Repair			
Antigua	1 800 988 2112	Guatemala	AT&T +800 998 2112
Argentina	0 810 444 3COM	Haiti	57 1 657 0888
Aruba	1 800 998 2112	Honduras	AT&T +800 998 2112
Bahamas	1 800 998 2112	Jamaica	1 800 998 2112
Barbados	1 800 998 2112	Martinique	571 657 0888
Belize	52 5 201 0010	Mexico	01 800 849CARE
Bermuda	1 800 998 2112	Nicaragua	AT&T +800 998 2112
Bonaire	1 800 998 2112	Panama	AT&T +800 998 2112
Brazil	0800 13 3COM	Paraguay	54 11 4894 1888
Cayman	1 800 998 2112	Peru	AT&T +800 998 2112
Chile	AT&T +800 998 2112	Puerto Rico	1 800 998 2112
Colombia	AT&T +800 998 2112	Salvador	AT&T +800 998 2112
Costa Rica	AT&T +800 998 2112	Trinidad and Tobago	1 800 998 2112
Curacao	1 800 998 2112	Uruguay	AT&T +800 998 2112
Ecuador	AT&T +800 998 2112	Venezuela	AT&T +800 998 2112
Dominican Republic	AT&T +800 998 2112	Virgin Islands	57 1 657 0888

You can also obtain support in this region using the following:

Spanish speakers, enter the URL:
http://lat.3com.com/lat/support/form.html

Portuguese speakers, enter the URL:
http://lat.3com.com/br/support/form.html

English speakers in Latin America should send e-mail to:
lat_support_anc@3com.com

US and Canada Telephone Technical Support and Repair
1 800 876 3266

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